



A BUSINESS AND FINANCIAL REVIEW BY THE FEDERAL RESERVE BANK OF CHICAGO

November/December 1980

ISSN 0164 - 0682

ECONOMIC

PERSPECTIVES

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November/December 1980, Volume IV, Issue 6

ECONOMIC PERSPECTIVES

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Controlled circulation postage
paid at Chicago, Illinois.

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Capital spending—the national need

George W. Cloos

Solutions for the nation's major economic problems—inflation, lagging productivity, competitiveness in world markets, energy stringencies, and unemployment—rely heavily on hopes for a high and rising rate of business investment in new plant and equipment. Large investment outlays are needed to expand capacity, increase productive efficiency, improve quality of existing goods and services, and introduce new products.

Unfortunately, a four-year uptrend in business investment was reversed early in 1980, and the slide appears to be continuing into the new year. Spending has continued to rise in dollars, but inflation has more than offset these gains.

Focus on the Midwest

The states of the Seventh Federal Reserve District have a special stake in developments in business investment. Illinois, Indiana, Iowa, Michigan, and Wisconsin, with 15 percent of the nation's population, manufacture about a third of its producer equipment. This region is dominant in motor vehicles, farm equipment, and construction equipment, but it is also a major supplier of machine tools, engines, mechanical and electrical components, conveyors, and equipment for the railroad, mining, oil and gas, and food processing industries. An important share of the shipments of Midwest capital goods production goes abroad and helps minimize the nation's chronic balance-of-trade deficit.

Except for trucks and farm and construction equipment, hurt by lagging demand and strikes in 1979, output of most types of capital goods continued at high levels until last spring. Since then, order backlogs of most firms have been eroding. Layoffs have occurred and hours have been cut back. Capital goods, overall, are no longer acting as a

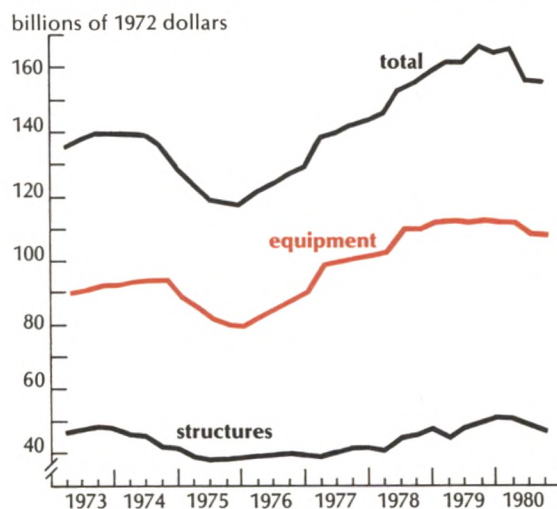
buffer to weakness in consumer goods industries prominent in the Midwest, including autos, light trucks, recreational equipment, and household appliances.

Capital spending trends

Total spending on new business structures and equipment, as measured in the gross national product (GNP) accounts, will probably exceed \$290 billion in 1980. About two-thirds of this total will be for equipment, and one-third for structures. The total will be up about 6 percent from 1979, but down 3 percent to 4 percent after adjustment for inflation. Total GNP will be up almost 10 percent in 1980, but only about even after inflation. This year's decline in real investment followed a three-year period when dollar spending rose about 17 percent annually and real gains averaged about 9 percent.

Despite the lag in capital spending in 1980, the total will be about 11.2 percent of

Four-year boom in business capital spending peaked in the first quarter



GNP, significantly above the 1950-80 average of about 10 percent. The all-time peak for the years since World War II was 11.6 percent in 1979. The low point was 9 percent in 1961-63. The poorest recent year was 1976 with 10.1 percent.

Oil outlays lead

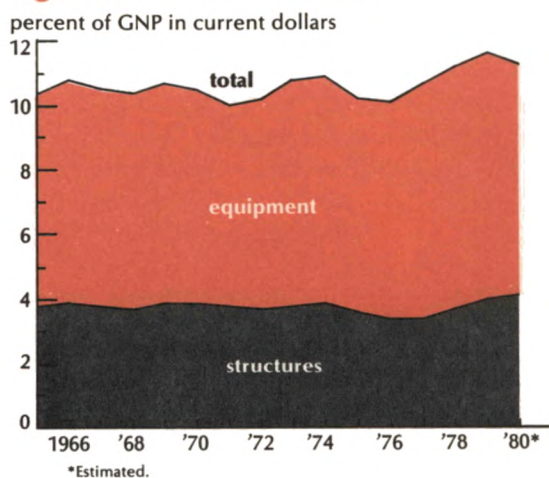
The Department of Commerce (DOC) conducts a quarterly survey of business capital spending plans. Nonfarm businesses are asked to report expected outlays on new plant and equipment to be located in the United States that will be charged to fixed asset accounts. The survey *excludes* agriculture and all items charged to current account, both of which are included in the structures and equipment component of GNP. Intangibles and raw land, which are substantial in outlays of some industries, are excluded from both measures.

The capital spending survey published in December projected an increase of 9 percent in 1980. This is about the same as the rate of inflation, indicating no real gain. In March an increase of 11 percent had been expected. Apparently, the sharp dip in activity in the second quarter did not drastically affect the implementation of plans already under way.

Recent capital spending trends vary greatly in strength from industry to industry. Variations depend principally on requirements to make new products, pressures to expand capacity, opportunities to improve quality and/or efficiency, and outlays mandated by government regulations. Limitations imposed by financial capacity set ceilings on outlays in many cases.

Petroleum industry capital spending, as tabulated in the DOC survey, will total \$20 billion in 1980, up 25 percent from 1979, and four times as much as in 1973, the year the Arab oil embargo was imposed. Total investment spending of the petroleum industry will approximate \$40 billion in 1980, including overseas programs and domestic outlays charged to current account such as purchases of leaseholds and a large proportion of exploration expense.

Business investment remains at high level relative to GNP



Petroleum companies are investing virtually all of their huge cash flow in finding, processing, refining, and distributing oil and natural gas. Because of the rapid advance of oil prices, and the uncertainty of Middle East supplies, exploration is at a fever pitch. Activity is limited by availability of engineers and other technicians, specialized equipment, and supplies such as line pipe. In no other major industry are capital spending programs proceeding with comparable urgency.

Other industries reporting large increases in capital spending in 1980 include paper, chemicals, electrical machinery, nonferrous metals, and commercial buildings. Industries expecting to reduce spending include electrical utilities, rubber, and building materials. In each of the industries expecting declines, estimates of long-term demand have been scaled down in recent years. In the case of electric utilities, many projects have been stalled by regulation and litigation.

The motor vehicle industry expects to spend \$9 billion on plant and equipment in 1980, 9 percent more than in 1979. Motor vehicle producers plan a high level of outlays for the next five years in order to produce more fuel-efficient cars and trucks. Financial capacity will limit programs of some manufacturers.

Investment must rise

Despite a sluggish pattern recently, business capital spending remains at a high level in proportion to GNP. Even assuming a further decline in real outlays in 1981, spending on structures and equipment would still approach 11 percent of GNP, which would exceed the long-term average. Nevertheless, many observers believe that a much higher level of capital spending is necessary if the economy is to grow and the nation is to improve its competitive position in world markets. The reasons are complex, but basically the problem is that a much larger share of investments nowadays goes for nonproductive purposes or merely to maintain the existing capital stock.

The most important factor eroding the investment dollar is inflation. Costs of capital goods have increased even faster than prices generally. From 1972 to 1980 the price level, as measured by the GNP deflator, rose 80 percent, while prices of structures and equipment combined rose 89 percent. The main culprit has been construction, where costs have been boosted by soaring wages and prices of materials. Costs of acquiring and developing land, moreover, have risen even faster than construction costs, because of the growing scarcity of suitable sites and restrictions on development imposed by regulation and litigation.

About 5 percent of capital outlays in recent years has been allocated to facilities to control air and water pollution. Substantial investments also have been necessary to improve safety. Outlays in factories and mines mandated by the Occupational Safety and Health Administration have been significant, but no quantification is available. Far more important have been design changes required to improve safety in nuclear power plants following the Three Mile Island accident in March 1979. As a result of new requirements, the estimated cost of completing certain plants doubled, with no change in their planned output of electric power.

A huge volume of current capital outlays

is now directed toward improving energy efficiency. Such outlays relate both to the operation of building and equipment and to the nature of products. Most new aircraft being purchased by the airlines reflect a need to cut fuel costs, rather than a desire to boost capacity. In the auto industry, the great bulk of current and planned capital outlays is for the purpose of improving gas mileage on new cars and trucks.

In the extractive industries, especially gas and oil, much larger expenditures are now required to provide a given volume of product. Newly discovered deposits of minerals are usually of smaller size and contain lower grade ores. Oil and gas deposits are sought in the Arctic and in the waters of the continental shelf under adverse conditions that entail enormous expense for exploration, development, and production. To transport oil and gas from new fields, pipelines are built for long distances over difficult terrain.

By far the strongest element in the commercial construction sector in 1980 is office buildings planned for the downtown areas of large cities. Much of this space will be occupied by lawyers, accountants, publicity firms, government departments, and other groups engaging in "social overhead" activities that do not contribute directly to the production of privately consumed goods and services. Many of these activities are mandated by legislation, and, while some clearly satisfy legitimate needs, the social utility of others is open to serious question.

Finally, and perhaps most important, a growing volume of capital goods is being retired from active use each year. The total man-made capital stock may be declining, contrary to published U.S. government data showing continued growth of the capital stock. These data have not been fully adjusted to reflect the effects of rising wages, higher fuel costs, foreign competition, and population shifts, which have accelerated obsolescence and abandonments of structures and equipment. Usually these facilities stand idle until they are scrapped. This trend is most evident in the Midwest and Northeast, and

particularly in the auto, rubber, and steel industries.

Financing problems

Corporations obtain funds from a variety of external sources, including sales of stock and bonds, short-term borrowings, and trade credit. Historically, however, they have relied primarily on funds generated internally through retained earnings and depreciation allowances. On average, internal funds, or "cash flow," account for about two-thirds of all funds raised by corporations.

Many companies limit capital expenditures to projections of cash flow so that they will not have to raise funds in the long-term credit markets. Cash flow of nonfinancial corporations exceeded plant and equipment expenditures every year from 1961 to 1967 and by 10 percent for the entire period. Since 1967, cash flow has averaged 12 percent less than capital spending. Last year it was 19 percent less, and in the first nine months of 1980 the shortfall was 25 percent. (These aggregative comparisons are necessarily rough, because cash flow and capital spending do not always mesh industry by industry or company by company.) Despite a huge level of cash flow by historical standards, therefore, corporations have had to rely more and more heavily on outside sources of funds for capital spending and other purposes. Record high interest rates and low market values for stocks of major companies have aggravated the problem.

In the first nine months of 1980, corporations raised funds in the credit markets at an annual rate of \$97 billion, down from a record \$114 billion in all of 1979. Corporate bond sales in the first half of 1980 were up about 50 percent from last year, but the rate of new issues slowed in the late spring and summer as financial managers deferred scheduled bond issues because of unfavorable market conditions. Bank loans, which had dropped sharply in the second quarter, surged back after midyear, mainly because of the drop in bond financing.

Clearly, financial stringencies are placing a lid on business capital spending. Earnings in most industries have been depressed by economic conditions. In the credit markets, federal, state, and local governments and the residential construction industry have competed for funds. Financial limitations would be even more severe in 1980 were it not for reduced needs for funds to carry inventories and receivables.

Raising the ante

In 1980, unlike 1974-75, there have been relatively few cancellations of orders already placed for equipment. There is little evidence, moreover, that established spending programs have been shelved or curtailed. However, corporate managements have become increasingly cautious in approving *new* programs essential to maintaining a high level of investment in future years. In the recent election campaign, leaders of both political parties expressed their desire to bolster investment to improve productivity, meet foreign competition, and moderate energy stringencies.

In its coming session, the Congress will consider measures to stimulate business investment. Pressures are building to modify legislation and regulations that prevent or delay construction of new facilities and development of new mineral sources. Support is growing for changes in depreciation rules to permit faster write-offs in the direction of the "10-5-3" rule—10 years for buildings, five for equipment, and three for vehicles. Reductions in tax rates for both corporations and individuals are urged to provide additional funds for investment.

Changes in tax rates and depreciation rules doubtless would increase the pool of funds available for business investment. But money is only part of the problem. Major capital spending programs pay off only after a period of 10 years or more. Decisions taken today depend on confidence in a prosperous general economy and a suitable political and social environment for many years to come.

The impact of freer trade—the Tokyo Round and the Seventh District

Jack L. Hervey

For centuries, governments have placed taxes on imported goods to raise their prices on home markets and discourage their domestic consumption. The purpose of these taxes, called “tariffs,” is to shield domestic producers and workers from foreign competition.

Historically, the use of tariffs has been most extensive during times of increasing domestic unemployment. Governments have tried to stimulate domestic employment by limiting the inflow of foreign-produced goods, thereby shifting the burden of unemployment onto their trading partners. Invariably, such strategies have boomeranged. To protect themselves against such exportation of unemployment, foreign trading partners have imposed tariffs of their own. Such actions and counteractions were widespread in the 1930s as nations tried to escape the spreading worldwide depression. The final outcome of these trade wars was even higher tariff walls that increasingly hampered the flow of international trade.

By the time the world’s trading nations realized the futility of their tariff actions, virtually all were surrounded by high protective walls that prevented them from reaping the benefits of international trade. After World War II the process of dismantling these barriers began.

The most recent major step toward easing restrictions on world trade took place December 17, 1979, when representatives of the major industrial countries and several developing countries signed a landmark multilateral trade agreement. That agreement grew out of negotiations that began in September 1973 under the auspices of the General Agreement on Tariffs and Trade (GATT). The Multilateral Trade Negotiations (MTN)—

also called the “Tokyo Round” after the city in which they began—were the seventh round of international trade negotiations since the end of World War II.

Three of the seven rounds have been landmarks in the evolution of world trade policy. The first round of multilateral negotiations completed in 1947 led to the GATT and with it a framework of rules governing the actions of governments in world trade. The agreement also provided for sanctions to be applied when the rules were broken. In 1967 the sixth or Kennedy Round of tariff negotiations succeeded after five years in reducing industrial countries’ tariffs by an average of two-fifths.

The major accomplishment of the recent seventh round of negotiations was to address, for the first time since the establishment of the GATT in 1947, the issue of nontariff distortions in world trade.¹ Unlike tariffs, which were reduced in previous rounds of negotiations to the point where they did not constitute major impediments to world trade, nontariff distortions continued to provide governments with a broad assortment of tools with which to discourage foreign competition in their home markets. Import quotas, “buy domestic” policies, differential product standards, inspection and licensing requirements, health and environmental standards,

¹A distinction should be made between the concepts nontariff “distortions” and nontariff “barriers.” Some government policies may distort trade relationships but may not be barriers to trade and may in fact increase the volume of trade. A case in point dealt with in the Tokyo Round was the government provision of export subsidies which distort trade relationships but at the same time may increase the volume of exports of the subsidized product.

export subsidies²—all proved useful to governments intent on maintaining or increasing the protection from foreign competition enjoyed by their domestic producers.

As world trade has increased, so has the importance of nontariff distortions. In part this is simply because, as tariffs were reduced, nontariff distortions have looked more important by comparison. But governments, still under pressure to protect domestic industry (in some cases increasingly so because of past reductions in tariffs), have adopted other means to restrict and distort trade.

The continued trend toward freer trade and the success of past negotiations in reducing tariffs served to focus attention on nontariff barriers. At its annual meeting in Tokyo in 1973, the GATT initiated discussions aimed toward reducing nontariff barriers. Nearly six years later, on April 12, 1979, representatives of industrial countries participating in the Multilateral Trade Negotiations signed an accord covering major issues of the negotiations. On July 26, 1979, President Carter signed the Trade Agreements Act, which ratified and implemented the agreements. The agreements, including reductions in tariffs also negotiated at the MTN, are scheduled to be phased in gradually—in some cases, over a period as long as ten years.

²Many trade distorting practices might appear to be unrelated to export or import trade and, in fact, restriction of foreign trade may not have been intended. It is just such practices that are often most effective in restricting trade and most difficult to remove. For example, a health department regulation that requires an inspector on the plant premises but does not allow reciprocal and comparable inspection by a foreign inspector in a foreign plant may effectively preclude importation of the foreign product. "Buy domestic" regulations may make it difficult for a foreign firm to make a competitive bid because of a required price differential (for example, a foreign bid must be 10 percent to 15 percent less than a domestic bid before the foreign bid will be considered). At the extreme, foreign firms are simply excluded from submitting bids. In still other cases, announcements for bids are made by invitation, rather than through public announcement, and foreign firms are not invited to submit bids. Such distortions number in the hundreds, are difficult to identify, and, as shown by the duration of the MTN, are even more difficult to remove.

Major provisions of the MTN

The basic purpose of the nontariff negotiations in the Tokyo Round was to establish rules and guidelines that would prevent otherwise reasonable domestic policies of a country, such as quality controls on food or drug manufacturing, safety requirements, or environmental controls, from becoming unseen barriers to international trade. The rules and guidelines evolved in the form of the following codes.

The Countervailing and Antidumping Duties Codes revised existing guidelines and regulations pertaining to the distorting effects of direct export subsidies, domestic subsidies, and dumping (selling of goods by an exporter in an import market at prices "less than fair value," generally interpreted to mean sale at a lower price than in the exporter's home market or below the cost of production). It also spelled out and standardized across countries the actions a government may take to counter the above practices.

Several changes were made in U.S. countervailing duty and antidumping law to conform with rules agreed upon in the MTN. Most important was the requirement that U.S. industry prove that "material injury" has resulted from foreign subsidies on goods imported into the United States before countervailing duties may be imposed. Under prior law a determination of "injury" was not required for countervailing duties to be imposed on dutiable goods but was required on goods imported free of duty. Prior U.S. legislation pertaining to dumping of goods in the U.S. market also required an "injury" determination. The term "material" was added to the concept of "injury" at the insistence of other industrial countries to prevent determinations of minor or inconsequential injury from triggering countervailing or antidumping duties. The 1979 act also required more expeditious handling of countervailing duty and antidumping investigations.

The Customs Valuation Code established a systematic procedure for determining the value of goods as a basis for imposing import

duties. The primary valuation standard is to be the transaction value of the goods. However, depending on specific conditions, one of four alternate methods may also be used. The standardized valuation procedures eliminate the controversial U.S. American Selling Price valuation (on benzenoid chemicals, certain rubber-soled footwear, canned clams, and certain knit wool gloves and mittens) and certain controversial and arbitrary import valuation methods used by foreign countries.

The major advantage of standardizing tariff valuation procedures is that it contributes toward certainty in trade. Both exporters and importers will be enabled to predict with confidence the duty that will be applied to an item. Because uncertainty in any form is a major deterrent to trade, the removal of uncertainty by the customs valuation code should lead to an expansion of trade.

Implementation of this code will not change significantly the effective tariff on goods formerly subject to the American Selling Price scheme. The tariff rate schedule for such goods was adjusted so that the effective rate will remain approximately the same.

The Government Procurement Code attacked the problem of discrimination against foreign goods in the purchase of materials used by governments. The U.S. government, through formal legislated preferences for domestic producers, has openly discriminated against foreign suppliers. Most other countries have discriminated against foreign suppliers through hidden administrative rules and practices.

The intent of the government procurement code was, first, to establish specific and visible rules governing government purchases, bid procedures, and the like and, second, to grant foreign suppliers increased access to the large government market for goods. Provisions of this code, as far as the United States is concerned, took effect upon enactment of the ratifying legislation in July 1979, except that certain Presidential waivers were granted until January 1 of 1980 and 1981.

The Product Standards Code was probably the most difficult and ambiguous of the

nontariff codes. It was designed to discourage the discriminatory application to imports of quality control standards, testing procedures, certification requirements, and other similar domestic health, safety, security, and environmental rules and regulations. The important purpose of this code is to ensure access to markets to both domestic and foreign suppliers.

The MTN legislation also approved a number of bilateral agreements on trade in cheese and other dairy products and meats. U.S. import quotas on cheese were relaxed, but the proportion of total cheese imports subject to quotas was increased. Prior to the quota increase, about 50 percent of cheese imports entered under quota while about 85 percent will be subject to the expanded quota. The minimum level of beef imports was also increased somewhat, but this is expected to have little practical effect because imports have been above the minimum level in most of the past ten years.

The Trade Agreements Act extended the negotiating authority of the President pertaining to nontariff barriers for eight years until January 3, 1988. This will permit the continuation of negotiations on several issues that were not settled in the latest round and will permit negotiations on other types of nontariff barriers.

Tariff reductions

In addition to lowering some nontariff barriers, the MTN achieved a significant further reduction in tariffs. The Trade Act of 1974, which formally authorized the United States to participate in the Tokyo Round, granted negotiating authority for the reduction of U.S. import tariffs, without further congressional actions, by up to 40 percent from the January 1, 1975, level. It also authorized the elimination of tariffs that were 5 percent *ad valorem* or less as of that date. Reductions negotiated outside this range were required to be approved by the Congress.

Thus, the Trade Agreements Act of 1979 approved certain tariff concessions, such as the elimination of tariffs on civilian aircraft,

**Tariff rates reduced in the MTN
(Global rates)¹**

	<u>U.S.</u>	<u>EC</u>	<u>Japan</u> (percent)	<u>Canada</u>
Dutiable imports				
Pre-MTN average tariff levels	8.2	9.8	6.9 (10.8) ²	13.1 (15.5) ²
Post-MTN average tariff levels	5.7	7.2	4.6 (5.4) ²	8.7 (9.4) ²
Percentage tariff reduction—industrial goods	31	27	28 (50) ²	34 (39) ²
Dutiable imports plus duty-free imports				
Pre-MTN average tariff levels	6.1	6.3	3.2 (5.0) ²	9.9 (11.7) ²
Post-MTN average tariff levels	4.2	4.6	2.3 (2.5) ²	6.6 (7.1) ²

¹Tariff rates are the weighted average of imports from all sources that have most-favored-nation (MFN) status. The United States, as a rule, has denied MFN status to communist bloc countries. Only China, Hungary, Poland, and Romania have been granted MFN status by the United States.

²Canada and Japan had previously reduced tariffs from their legally permitted rates. The percentages in parentheses reflect the legal rates.

SOURCE: Office of the Special Representative for Trade Negotiations.

which were not provided for in the tariff-cutting authority of the Trade Act of 1974. However, most of the tariff concessions negotiated in the MTN did not require congressional approval.

The trade-weighted reduction in current tariff rates negotiated for dutiable industrial goods amounted to about 34 percent for Canada, 31 percent for the United States, 28 percent for Japan, and 27 percent for the European Community (EC).³ In percentage terms the tariff cuts were substantial, but because most tariff rates were already fairly low, the effective reductions were quite small. After all of the tariff reductions have been made, the average tariff rate for the industrial-

³In some countries tariff rates applied to imports had previously been reduced unilaterally from the legal rates, primarily as an anti-inflation measure. In Japan, for example, the average tariff reduction on dutiable industrial goods from the legal, or "bound," rate was 50 percent, considerably greater than the 28 percent reduction from the rates actually applied. For Canada the reductions from the bound rate averaged 39 percent as compared to a 34 percent reduction from the actual rates.

ized countries for all goods traded will decline only about 2 percentage points, from 6.2 percent to 4.3 percent. The tariff reductions are scheduled to take place over the next eight years (in some cases it may be up to ten years), thereby further diluting their rather modest impact.

Implications of the MTN for the United States

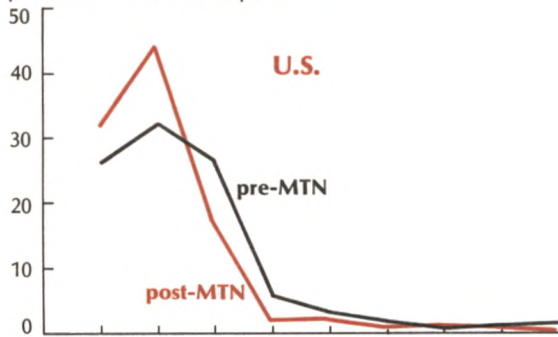
The underlying rationale for the U.S. government's participation in negotiations aimed at reducing trade distortions and barriers is that the freer trade made possible by such reductions will result in an increase in national economic welfare. If this were not true, it would be difficult for the government to justify becoming a party to the agreement. The gains from trade—in terms of increased income and employment associated with export industries and the higher employment, lower cost of goods, and wider selection of goods resulting from increased imports—must exceed the losses from the displacement of production and employment in domestic industries that occur because of increased imports.

In analyses of the gains and losses attributable to changes in trade restrictions, the direct gains and losses in production and employment typically receive the greatest emphasis. In part this is because it is extremely difficult to measure the broader welfare effects of such changes. The difficulty stems from the fact that many of the gains from trade due to reductions in trade restrictions are indirect. For example, reduced import prices due to lower tariffs not only benefit consumers directly, but also result in downward pressure on domestic prices of competing goods. Furthermore, as import barriers are lowered, there is a corresponding increase in the range of choices open to consumers in the market place. Undoubtedly, the consumer is benefited by both indirect effects, but it is difficult to quantify them.

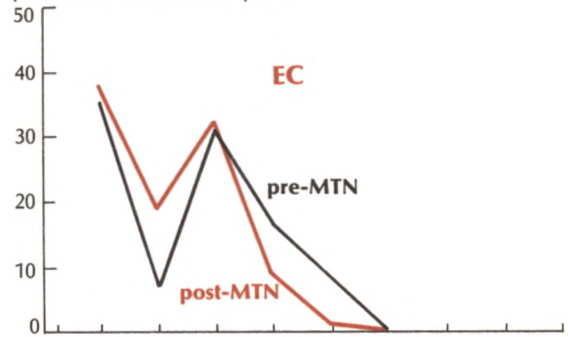
More importantly, benefits are diffused among a large number of consumers, few of whom are so strongly affected by the changes

The distribution of import tariffs tightens as a result of the MTN*

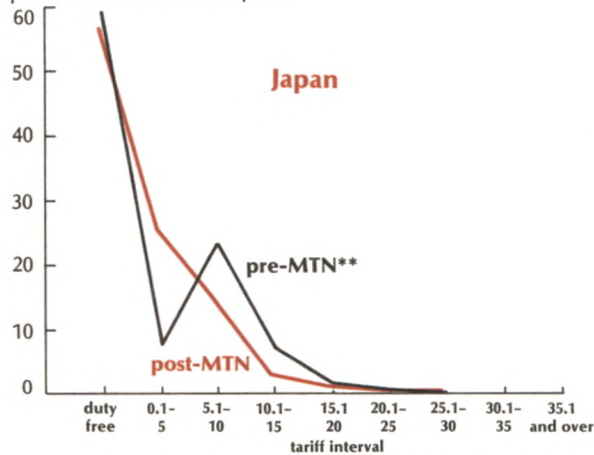
percent of industrial imports



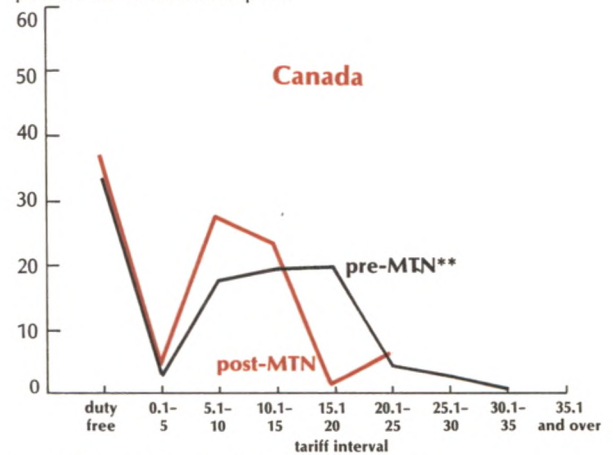
percent of industrial imports



percent of industrial imports



percent of industrial imports



*Percentages are based on the value of industrial imports falling within specified tariff intervals. The tariff interval data are based on 1976 trade data.

**The tariff intervals for Canada and Japan refer to the rates actually applied, which were lower than the legal rates.

in import barriers as to take an active interest in them. In contrast, cutbacks in domestic output and employment tend to be concentrated within relatively few companies and affect only a small number of workers. These companies and workers have strong incentives to oppose changes that adversely affect them. Consequently, the adverse effects on domestic output and employment that would result from a reduction of import barriers are more closely studied and receive more attention than the often greater, but highly diffused, benefits to consumers.

Assuming that the overall welfare impact of the MTN agreement on the U.S. economy can be determined, there are several reasons

for expecting it to be modest. First, in absolute terms, the tariff reductions are small. Second, to the extent that the reductions in nontariff restrictions are quantifiable, they are quite limited in scope and are small in comparison with the size of the overall economy. Third, implementation of the MTN provisions is scheduled to take place over an extended period, which will greatly dilute the impact on overall trade, employment, and prices in any individual year.

Several studies have been undertaken that provide estimates of the impact of the tariff cuts and reductions in nontariff distortions on employment, prices, and trade. One such study estimates that if all the tariff and

nontariff changes were implemented at one time, the overall economic welfare impact of the trade agreement would be less than one-tenth of one percent of U.S. gross domestic product.⁴ Based on the 1976 data used in that analysis, this would have been a net welfare gain of \$1.0 billion to \$1.5 billion. In terms of 1979 data, the net welfare gain for the United States might have totaled between \$1.4 billion and \$2.1 billion.

**Reduction in trade barriers
will increase economic welfare¹**

	Percentage increase in GDP ²	Change in welfare based on 1979 GDP ³ (billion dollars)
United States	.06 to .09	1.4 to 2.1
EC	.13 to .26	3.1 to 6.2
Japan	.03 to .06	0.3 to 0.6
Canada	.17 to .35	0.4 to 0.8
Average of 18 industrial countries	.08 to .18	5.2 to 11.7

¹Alan V. Deardorff and Robert M. Stern, *MTN Studies Part 5: An Economic Analysis of the Effects of the Tokyo Round of Multilateral Trade Negotiations on the United States and the Other Major Industrialized Countries*, prepared for the Subcommittee on International Trade, Committee on Finance, United States Senate, 96th Congress 1st Session (GPO, June 1979), p. 103.

²Calculations based on gross domestic product in 1976. Estimates assume the full effect of the reductions in tariff and nontariff barriers takes place immediately.

³Calculations, based on Deardorff and Stern, assume the relationship between the change in economic welfare and gross domestic product in 1976 holds for 1979.

The same study estimates that the trade agreement may result in a net addition of only about 11,000 jobs (a net gain of 42,000 jobs in agriculture and a net loss of 31,000 in other sectors of the economy). While other estimates differ somewhat, they have in common the conclusion that the overall impact of the MTN on employment will be small in compar-

⁴Alan V. Deardorff and Robert M. Stern, *MTN Studies Part 5: An Economic Analysis of the Effects of the Tokyo Round of Multilateral Trade Negotiations on the United States and the Other Major Industrialized Countries*, prepared for the Subcommittee on International Trade, Committee on Finance, United States Senate, 96th Congress 1st Session (GPO, June 1979), p. 63.

ison to total employment. Furthermore, the impact, whether beneficial or detrimental, will be diluted by the considerable length of the implementation period. Normal changes in employment—increases in employment opportunities, increases in the total labor force, natural attrition due to retirement, and regular job turnover—will greatly exceed the effects of the MTN.

The probable impacts on prices are also small. The MTN agreement should result in about a 2.5 percentage point reduction in average tariff rates on U.S. imports subject to duties and only about a 1.9 percentage point reduction in average tariff rates on all U.S. imports (the combined average rate on goods subject to duties and goods that are duty free). According to one estimate, in the unlikely event that all of the benefit of the lower tariffs were to be passed along and if all the tariff reductions were implemented at one time, this would reduce U.S. consumer prices by a minute 0.07 percent from what they otherwise might be.⁵ Estimates by the Office of the Special Trade Representative of the price impact of the tariff and nontariff agreements are somewhat higher—a reduction in the price level by as much as 0.6 percent.⁶

Another complicating factor affecting the eventual impact on prices in the United States is the effect of the Tokyo Round on exchange rates under the present flexible exchange system. To the extent that the Tokyo Round results in an increase in U.S. exports greater than the increase in imports (contributing toward a net positive trade balance), the U.S. dollar will tend to increase in value relative to other currencies and exert downward pressure on the U.S. price level. Should imports increase more than exports, the tendency would be toward a depreciation of the dollar and upward pressure on prices.

Most observers expect a net increase in

⁵*Ibid.*, p. 100.

⁶Executive Office of the President, Office of the Special Representative, *Impact of the MTN on Inflation* (Washington, May 11, 1979), p. 3.

U.S. exports to result from the Tokyo Round, and thus an appreciation of the dollar that will reinforce the price-reducing effects of lower tariffs and reduced trade restrictions. According to estimates in one study, however, net exports by the United States will be reduced slightly by the tariff and nontariff concessions of the MTN.⁷ If so, the likely results would be a slight depreciation of the dollar and a corresponding upward pressure on prices, offsetting to some degree the price-reducing influence of reduced trade restrictions.

Manufacturing, the MTN, and the Seventh District

According to a 1976 Commerce Department survey, Seventh District states contribute 22 percent of the nation's total value of manufactured goods production.⁸ In two major categories, nonelectrical machinery and transportation equipment, the five District states account for nearly one-third and two-fifths, respectively, of total U.S. production. Production in the food processing and electrical machinery industries is also concentrated in the District, but to a somewhat lesser degree—District states account for about 23 percent and 25 percent, respectively, of the U.S. total. These four broad industry categories account for over half of the total output of manufactured goods in the Seventh District, as compared with two-fifths for the United States.

Exports of manufactured goods from Seventh District states totaled about \$36 billion f.a.s. port of export or about \$30 billion valued f.o.b. plant in 1979, according to estimates based on the 1976 Commerce Department Survey. This was 25 percent of the value of all manufactured goods exported from the United States. Nonelectrical machinery shipments were particularly important components of the District's exports of manufac-

tured goods, comprising nearly one-third of the total. Transportation equipment, primarily autos and automotive equipment shipments to Canada under the U.S.-Canada Automotive Products Agreement, made up more than one-quarter of the District's exports. Electrical machinery accounted for nearly a tenth of manufactured exports, and food products made up another 7 percent. In aggregate, these four broad categories of manufactured goods—electrical machinery, nonelectrical machinery, transportation equipment, and foods—accounted for three-quarters of manufactured exports originating within Seventh District states. In comparison, these same categories accounted for three-fifths of U.S. exports of manufactured goods.⁹

Nationwide, those manufacturing industries expected to gain the greatest benefit from the results of the Tokyo Round negotiations are the comparatively high-technology industries associated with transportation equipment (primarily aircraft), construction and agricultural machinery, and chemical production. Industries expected to be affected adversely over the eight- to ten-year period of the MTN's implementation are clothing and wearing apparel, radio and television manufacturing, lumber and wood products, and miscellaneous manufacturing such as sporting goods, musical instruments, and toys.

The primary benefits in terms of output and employment in manufacturing industries in the Seventh District states should show up in the nonelectrical machinery industries. Some of these gains will be direct in the form of increased exports and some will be indirect in the form of increased domestic sales to support expanded exports of agricultural commodities that result from the MTN agreements. It would appear, however, that losses in industries such as miscellaneous manufacturing, electronics (especially television output, which is heavily concentrated in Seventh

⁷Deardoff and Stern, p. 93.

⁸U.S. Department of Commerce, Bureau of the Census, "Origin of Exports of Manufacturing Establishments," *Annual Survey of Manufacturing Establishments* (Washington, June 1978), p. 2.

⁹For a more detailed discussion of Seventh District exports, see Jack L. Hervey, "Midwest—leading export region," *Economic Perspectives* (Federal Reserve Bank of Chicago, May/June 1979), pp. 10-17.

District states), and food processing may result in a small net reduction in manufacturing employment in the District.

In any case, the gains or losses are expected to be small in relation to total employment within the affected industries—in most cases less than 1 percent of the total. Estimates that have been made of the employment effects of the MTN indicate that normal growth in the economy and in demand for manufactured goods is expected to more than compensate for any depressing impact caused by the implementation of the trade agreements over the phase-in period. The reduction in trade restrictions is not likely to result in a reduction in total manufacturing employment, but may retard its growth over time.

Agriculture, the MTN, and the Seventh District

Inclusion of the agricultural sector provides a positive picture of the impact of the MTN on the economy of the District. Foreign markets are even more important to Seventh District agriculture than to manufacturing. In fiscal 1978 agricultural exports from the Seventh District states totaled nearly \$8 billion, more than 26 percent of the U.S. total and about 30 percent of the aggregate cash receipts from farm marketings in the five states.¹⁰

The most important products produced, in terms of domestic sales receipts, were livestock, feed grains, soybeans, and dairy products. The most important products exported by District states were feed grains, soybeans, and meats. The Seventh District agricultural products that faced the greatest import competition were dairy products, meats, and fruits and vegetables.

It has been estimated that, as a result of tariff reductions and increases in quotas, U.S. agricultural exports would increase by about 2 percent, or \$460 million (based on 1976 trade after full implementation of the agreements), with most of the increase in ship-

ments going to Japan, the European Community, and Canada.¹¹ Imports are estimated to increase a little over \$100 million, for a net gain in total U.S. agricultural exports of nearly \$360 million.

The primary gains from foreign trade concessions would appear to be in meats and meat products and to a considerably lesser degree in grains, soybean and oil seed products, and vegetables and noncitrus fruits. Assuming the Seventh District states benefit from the MTN changes in these categories in proportion to their share of U.S. exports of these broad categories of goods, the MTN might result in increases in District states' exports of meat and meat products by \$80 million, of grains and soybeans by nearly \$6 million, and of fruits and vegetables by about \$3 million. The increase in District states' agricultural exports attributable to the MTN would be about \$90 million or about 20 percent of the total increase for the United States.

On the import side, the United States granted foreign countries a number of tariff concessions on agricultural products. Only one of the concessions is of significance to the District—an increase in quotas on the importation of cheese. Beginning in 1980, the annual quota on cheese imports is nearly 109,000 metric tons, an increase from 58,000 metric tons in 1978 and 1979.

The potential increase in imports is far less than the 51,000 ton difference, however. Prior to the MTN agreement, some cheese, referred to as “price break” cheese, could enter the United States outside the quota if the import price was sufficiently above domestic support prices. In 1978 cheese imports totaled about 109,000 metric tons (about 50,000 tons under quota and about 60,000 tons under “price break”), or approximately the same as the 1980 quota, which includes all cheeses except goat's and sheep's milk

¹⁰*Ibid.*, p. 12.

¹¹James P. Houck, *MTN Studies Part 2: The Tokyo/-Geneva Round: Its Relation to U.S. Agriculture*, prepared for the Subcommittee on International Trade, Committee on Finance, United States Senate, 96th Congress 1st Session (GPO, June 1979), p. 63.

cheeses, French Roquefort, English Stilton, and soft cured cheese. It has been estimated that if the entire 1980 quota were filled and nonquota imports brought the volume up to 124,000 tons, the increase over the volume actually imported in 1978 would be equivalent to about 0.25 percent of total annual U.S. milk production—about 0.9 percent of U.S. cheese production—and would amount to about 0.5 percent of the \$12.7 billion in cash receipts from U.S. dairy production in 1978, or about \$66 million.¹²

Seventh District states account for about 28 percent of U.S. cash receipts from dairying, with the state of Wisconsin alone accounting for over 17 percent of the total. If the increased quotas were filled and if nonquota imports brought the total to as much as 124,000 tons, District state farmers' dairy receipts, which totaled \$3.5 billion in 1978, might be reduced by as much as \$18 million—still only about a 0.5 percent reduction in receipts from dairying for the District states as a whole.

The projected \$11 million reduction in receipts in Wisconsin, the District's most important dairy state, would be equivalent to less than 5 percent of the increase in receipts from dairying between 1977 and 1978. Given normal growth in demand, the industry should be able to adjust easily to the increase in imports. However, areas heavily dependent on dairying may be expected to experience some pressure on farm income.

An area of potential gain resulting from the MTN derives from the "binding" of tariffs for certain commodities. For example, Japan agreed to bind tariffs on soybeans at their current duty-free base. This means that Japan will not impose tariffs on soybeans in the future to restrict the inflow of this rapidly increasing import. Although there is no immediate direct benefit to U.S. exporters, the effect is to facilitate access to the Japanese market in the future. Of total bindings obtained on U.S. agricultural exports worth \$1.3 billion in 1976, \$1 billion was granted by Japan

and five other countries on soybeans and soybean products.

The measurable net gain in agricultural exports resulting from the MTN, based on 1976 trade, is estimated at approximately \$360 million for the nation as a whole (about 1.6 percent of the total) and \$72 million for the Seventh District states (about 1.2 percent of the total). Adjusted to the level of 1979 trade, the net gain for the United States and the Seventh District states may have been about \$560 million and \$110 million, respectively. The differential impact of the agreement leaves Seventh District states with a smaller marginal gain from the MTN (about 20 percent of the gain) than their present overall share in U.S. agricultural exports (about 26 percent). As was the case with manufactured goods, the measurable impact of the trade concessions affecting agriculture obtained by the United States in the Tokyo Round negotiations will not be large. The impact will be further diluted by the long adoption period for many of the concessions.

Conclusion

The conclusion of the MTN will not result in dramatic changes in U.S. international trade. On the whole, it appears that the U.S. economy will derive a net benefit from the agreements, but any benefits will be diffused over a substantial period of time and will be relatively small. After taking into account the rather small sector gains and losses in production and employment, and the impact of the MTN on prices, the primary benefit from the Tokyo Round may be the intangible fact that the participating nations were able to conclude some reduction in trade barriers in a worldwide atmosphere of reemerging protectionism. The framework for international negotiations on trade-related issues not only remained intact but was strengthened. This is of vital importance to Seventh District states, which depend heavily on foreign trade to support economic activity.

¹²*Ibid.*, p. 69.

Electronic funds transfer: revolution postponed

N. Sue Ford

In the early 1970s it was fashionable to speak of the future of electronic funds transfer (EFT) as an inevitability that would be upon us before we knew what was happening. Such terms as "a whole new ballgame" and "the checkless society" entered the vocabularies of bankers and financial writers with little criticism and less resistance. Now, ten years later, it is clear that the prophecies of a revolution in EFT were premature. Checks are still with us and their volume is greater than ever. Nevertheless, just like Peter's repeated, oft-heeded, but finally ignored cry of "wolf!," the glowing promise of EFT appears at last to be coming true.

A key factor contributing to the emergence of EFT is the growing competition between different types of financial institutions in offering third-party payment services. The Board of Governors recently recognized the substitutability between these services by redefining the monetary aggregates to include NOW accounts, ATS accounts, credit union share drafts, and demand deposits at mutual savings banks. In addition, the Depository Institutions Deregulation and Monetary Control Act passed on March 31, 1980, officially recognizes and authorizes, for the first time on a national basis, NOW accounts, ATS accounts, credit union share drafts, and the remote service units used by savings and loan associations.

A major impetus behind the development of this commonality of services has been the dramatic increase in the level of interest rates over the past several years, which has induced consumers to seek profitable alternatives for their noninterest-earning demand deposits and has given financial institutions an incentive to develop substitutes for demand deposits. As a result, commercial

banks must now compete with many types of financial institutions for these funds. The ability of these organizations to compete so readily through alternative payment instruments has been enhanced by developments in the area generally termed electronic funds transfer, or EFT. In large part, the attractiveness of EFT to nonbank financial institutions has been a consequence of the past regulatory environment, which prevented them from competing in offering paper-based payments services, but was less explicit as to limitations on electronic transfers.

Not only has EFT sped the development and acceptance of alternative means of payment, it also has enormous untapped potential for reducing labor costs and facilitating the handling of the rising volume of paper items processed by the banking industry. Check clearing and collection are fairly labor-intensive services and depository institutions, like other firms, must continually aim to reduce or hold the line on costs. Much of the appeal of EFT to depository institutions derives from the potential cost savings that it offers.

In a number of states, thrift institutions have taken the initiative in offering EFT services. They were early to recognize that they can compete with commercial banks for new EFT services, such as direct deposit accounts and preauthorized payments,¹ as well as use EFT to compete for transaction accounts. Both the desire of thrift institutions to compete with commercial banks and the competitive pressure on banks to reduce costs have been important factors in the development of EFT.

¹Robert E. Knight, "The Changing Payments Mechanism: Electronic Funds Transfer Arrangements," *Monthly Review*, Federal Reserve Bank of Kansas City (July/August 1974), p. 11.

Forms of EFT

EFT takes a number of different forms, each involving a different degree of departure from traditional means of payment, different costs, and different advantages and disadvantages to customers and their financial institutions.

Automated teller machines. One of the most popular means of transferring funds electronically is through the use of automated teller machines (ATMs), which are utilized by financial institutions either on or off premises to perform several basic teller functions electronically. Services typically include receiving deposits, dispensing funds, transferring funds between accounts, making credit card advances, and receiving payments. The customer usually accesses the machine by inserting a magnetic stripe card and entering on a keyboard a unique identification number known only to the customer.

The popularity of ATMs rests on several fundamental advantages that they offer. In many cases, a bank can substitute an ATM for a more costly full-service "brick and mortar" branch. This is particularly advantageous in those states that place less onerous geographic and other restrictions on ATMs than on full-service branches; however, a number of states treat ATMs just like other branches. The ATM also reduces the need for tellers, lowering not only the salary cost to the bank, but also the cost of employee benefit and pension plans. Consumers like the reduced waiting time and the extended, often 24-hour, access. Although initial start-up costs are high, more intensive use of ATMs will gradually reduce the average transactions (variable) cost. Banks can reduce some of the risk of technical obsolescence by arranging to lease rather than purchase their machines.

Telephone bill payment. Another method of effecting funds transfers electronically is through telephone bill payment. This system was originally set up for users of touch-tone telephones, who can communicate their account numbers and payment amounts directly to the bank's computer. Now, several

depository institutions also offer the service to rotary dial customers, who convey their information to an employee of the institution. The employee, in turn, enters the information into the institution's computer system.

This form of EFT has lower start-up and operating costs and is cheaper and more flexible for the customer than most electronic alternatives. The main drawbacks to date have been the limited availability of touch-tone phones and resistance from billing companies forced to accept payments in a form that may not be compatible with their remittance systems.² A study by the American Telephone and Telegraph Company shows that, as of year-end 1979, 38 percent of U.S. residential telephone customers are touch-tone users. Because touch-tone will be available nationwide within five or six years,³ this is expected to rise to 64 percent by 1984. Therefore, telephone bill payment is likely to become an increasingly attractive EFT alternative. Of course, it is also possible that other technological advances in telecommunications devices will make telephone bill payment obsolete before touch-tone service becomes significantly more widespread.

Automated clearing houses. A number of EFT services have been made feasible by the development of the automated clearinghouse (ACH). The ACH is like the traditional clearinghouse in that it is a system for clearing interbank debits and credits. The difference is that with the ACH, the information enters the system in an electronically readable form, such as magnetic tape. In 1980 the Federal Reserve processed approximately 230 million items via the ACH, of which about 70 million are commercial items.

Direct deposit of payroll has proved to be one suitable use of the ACH. Under this plan the employer is authorized by an employee to deposit his or her wages directly into the employee's account at a depository institution. The employer records the payroll in-

²Sanford Rose, "Minimizing Losses on EFT," *American Banker*, September 4, 1979.

³Jeffrey Kutler, "Banks Get Good News on Touch-Tone Phone Use," *American Banker*, November 15, 1979.

formation on magnetic computer tape and sends it to the company's bank. The bank debits the account of the employer and credits the accounts of any employees who use the same bank as the employer. Payroll information for employees using other banks is combined with information from other employers on a new tape, which is transmitted to the ACH. A computer then sorts the day's transactions for each participating bank, and a tape is created for each payee bank listing the accounts and amounts to be credited. The normal net settlement procedure is followed.

The major advantage of direct deposit to the employee is that he or she need not bother picking up a paycheck and transporting it to a depository institution. Funds are deposited even if the employee is on vacation or absent for other reasons. Although this use of the ACH reduces the amount of checks or paper documents in the system, it does so only to the extent that it eliminates the initial distribution of payroll checks. Most participating employees still make most of their payments by writing checks. Even so, the savings to the employer can be considerable. For example, a recent study showed that two firms that utilized the ACH for their direct deposit program experienced percentage cost reductions of 57 and 77 percent.⁴ The major savings were in the costs of clerical and other labor.

Another use of the ACH that reduces paper input is preauthorized debits. The customer authorizes his bank or other financial institution to debit his account automatically for a specified amount on a certain date and to credit another specified account. The ACH process for preauthorized debits is similar to that for direct deposit. Use of this form of EFT is especially suitable for recurring payments of fixed amounts, such as instalment, mortgage, or insurance payments. In the case of transactions involving variable amounts, such as utility payments, consumers have been less

receptive to this system, fearing loss of control over the scheduling of payments and errors on the part of the depository institution and/or the payee.

Another use of the ACH is for check truncation, which is less a service for consumers than a technological improvement in the check-clearing system. Truncation does not reduce the number of paper items in the system but does shorten their flow. Data from physical documents, such as checks, are captured in electronic form upon their entry into the financial system. The data are then processed through the ACH system, and the bank customer receives a computer-generated statement in lieu of cancelled checks.

A 1979 study estimates a net savings to the banking system of 5.15 cents per check truncated, due to reduced postage and statement preparation costs.⁵ According to the study, approximately half of the roughly 40 billion checks written each year could be truncated with a potential annual savings of more than \$1 billion. These checks must be stored, however, and the storage and retrieval costs could be high.⁶

Point of sale terminals. A more radical departure of EFT from traditional modes of payment is the use of point of sale (POS) terminals. POS is a highly advanced form of EFT that exists today only in several localized pilot programs. The terminals are located in merchants' shops, and enable a customer to complete an immediate transfer of funds to the merchant, bypassing traditional forms of payment. When a customer makes a purchase, he or she requests a transfer of funds by inserting a magnetically coded card, sometimes called a debit card, into the terminal and entering his or her personal identification number. The sales clerk enters the amount of

⁵Dr. Allen H. Lipis, "Cost Savings in Truncation," *Check Safekeeping, A Proposal For Inter-Bank Check Truncation*, American Bankers Association, 1979, p. 4.

⁶Although 42 banks are participating in a check safekeeping pilot program established by the American Bankers Association, the limited scope of the program has precluded reliable estimates of storage and retrieval costs under a broadly adopted truncation program.

⁴Myron L. Kwast, "Cost Economies from ACH Use by Nonbank Firms," *Magazine of Bank Administration*, vol. 56 (June 1980), p. 54.

the transaction, and the terminal requests the customer's depository institution to authorize a transfer. The customer's funds are verified and, if they are sufficient, the transfer is authorized and the proper amount is immediately credited to the merchant's account. If the customer's depository institution is different from the merchant's, a central switching center is used to route and direct the electronic message. Printed copies of the transaction are generated for the merchant, the customer, and the depository institutions.

Merchants favor the general concept of POS as a means of reducing default risk and facilitating the extension of credit. Several merchants, especially grocers, have contributed time and effort to various trials of POS systems. A recent study indicates that a bank employing POS terminals may significantly increase its share of the deposit market.⁷ However, the true effectiveness and profitability of this EFT alternative cannot be measured on a small scale. To realize all the potential benefits of POS, the system would have to include all merchants and depository institutions and have a minimum number of central switches. This suggests the simultaneous development of a nationwide on-line system, entailing a staggering front-end investment in equipment. Before such a development could be undertaken, a myriad of regulatory and policy issues would have to be settled.

An effective POS network will most likely evolve in stages. It may begin with credit card authorization services, such as have been successfully implemented by Wells Fargo Bank (San Francisco), First National State Bank of New Jersey (Newark), Maryland National Bank (Baltimore), Bay Banks (Boston), and the largest banks in Chicago.⁸ Retailers favor card authorization networks that connect the banks and the retailer directly because they reduce cashier time. Instead of scanning a stolen card

list or making a phone call, the cashier can receive bank authorization simply by entering the credit card number into the electronic cash register. The use of electronic cash registers greatly enhances the benefits to be derived from implementation of the system. In addition, Visa offers an interchange rate which makes it economically attractive for retailers to ask for direct interconnection for bank card authorization, as J. C. Penney did in 1979. Thus, through step-by-step implementation of equipment and services, a pure POS system may soon evolve which will automatically debit the customer's account and credit the merchant's account at the time of purchase.⁹

Issues

Profitability and pricing. Among the key considerations of financial institutions in deciding whether to implement an EFT system are profitability and pricing of the service. The various EFT alternatives generally have high start-up costs and long payback periods. Experience has shown that the earliest versions of a new type of equipment, such as the ATM, may become technically obsolete before they are fully depreciated. Promotional costs are high because customers must not only be made aware that the service exists, but in addition they must be trained in its use. EFT is profitable only with a high transaction volume, and it may take months or even years to generate that volume.

Pricing of EFT services must assure profitability—at least in the long run—while enabling the depository institution to remain competitive in the short run. This is a task that will require increasing precision as the number of potential competitors grows and the services offered by commercial banks and thrift institutions become more and more similar. Although the payment of explicit interest on demand deposits has been prohibited since 1933, competition has led commercial banks to price their demand deposit services below

⁷Gary G. Gilbert and David A. Walker, "The Influence of EFTs on Changes in Bank Market Shares," *Journal of Retail Banking*, vol. 1 (December 1979), p. 30.

⁸"A Decade of Development Lies Ahead, Experts Say," *ABA Banking Journal*, vol. 72 (June 1980), p. 100.

⁹*Ibid.*

cost as a means of paying implicit interest on these deposits. In order to compete effectively, thrift institutions have also priced their demand deposit substitutes, such as NOW accounts and share drafts, below cost. It has been suggested that the profit potential of EFT services has been diminished by the industry's failure to utilize an analytical and rational procedure in costing and pricing.¹⁰

Banks have been encouraged to underprice their demand deposit services by the direct subsidy of such services that the Federal Reserve has long provided in the form of "free" check clearing services. However, as mandated by the Monetary Control Act of 1980, free clearing will end in 1981 and Federal Reserve check clearing will become available to all depository institutions at a price reflecting all direct and indirect costs of providing it. The increase in depository institutions' operating costs resulting from removal of the subsidy will give them added incentive to adopt explicit pricing of checking account activity. This, in turn, should make EFT services relatively more attractive to consumers.

Customer acceptance. Customer attitudes toward EFT services are clearly crucial to a depository institution's pricing and service policies. The utility of EFT to the consumer consists largely of the added convenience that it offers. For instance, ATMs have become popular because they eliminate the customer's need to wait in long teller lines and may effectively extend banking hours. Consumers have been willing to take the time to learn to use ATMs and incur some loss of funds control in return for the option of added convenience, usually with no additional service charge.

However, other forms of EFT such as check truncation do not offer such obvious customer benefits. In fact, customers may consider check truncation undesirable because it eliminates one service valued by many consumers, the returned endorsed

check as a receipt and a record of payment. Until some of the cost savings attributable to truncation are passed along to customers, acceptance is likely to be disappointing.

To be sure, truncation has had some success. Almost all credit union share drafts are truncated, and the savings and loan industry is experimenting with truncation for its NOWs. Several savings and loan associations in New Jersey have been successful in marketing truncation to their customers. In order to overcome customer resistance to the nonreturn of the NOWs, they supply depositors with NOW books that provide a carbon copy of each item written. Acceptance has been good, as evidenced by a customer attrition rate of less than 5 percent since the program began in January 1980.¹¹

It is said that many consumers will refuse to use POS and preauthorized payments because of the loss of control over payments that these types of EFT entail. This can be extremely important in cases involving a dispute with the merchant over defective goods or failure to deliver. Even absent such disputes, consumers value the ability to control the timing of various payments and, in cases where they are unable to satisfy all their obligations on a timely basis, to determine the order in which payments are made.

Another obstacle to acceptance of EFT is the loss of float associated with the immediate debiting of accounts. Although some EFT users stand to gain from the acceleration of payments on accounts receivable, surprisingly strong objections have been raised by those who would lose by the elimination of float. However, this advantage of the existing payments system will largely vanish when, as mandated by the Monetary Control Act, the Federal Reserve begins to charge for float and this is reflected in the pricing of checking account services.

Consumers in states with liberal branching laws, like California, have been slower to accept EFT services, especially ATMs, because

¹⁰Stephen J. Kohn and Charles W. Scott, "Effective Pricing of EFTS," *Bankers Magazine*, vol. 163 (January/February 1980), p. 42.

¹¹"New Jersey S&Ls Truncating NOW Records," *American Banker*, August 13, 1980.

the additional convenience they provide is less than it would be in unit banking or limited branching states.¹² Only continued

EFT Act

The Electronic Fund Transfer Act, Title XX of the Financial Institutions Regulatory and Interest Rate Control Act of 1978, was passed by the Congress on November 10, 1978. The act encompasses transactions involving POS terminals and ATMs, direct deposits or withdrawals, and telephone-initiated transfers. Both financial and nonfinancial entities that offer EFT services to the public are covered by the act. Major aspects of EFT covered by the act are:

- Consumer liability for unauthorized transfers, including liability limits and disclosure of loss to the financial institution.
- Issuance of access devices, such as debit cards, by financial institutions.
- Initial disclosure to the consumer of terms and conditions of the EFT agreement.
- Disclosure of subsequent changes in terms and error resolution notice.
- Applicability of state law and administrative enforcement procedures.

Basically, a consumer's liability for an unauthorized transfer is limited to the lesser of \$50 or the amount of unauthorized transfers that occurs before the financial institution is notified, provided that the consumer notifies the institution within two business days of his learning of the loss or theft.

Sections regarding consumer liability and the issuance of access devices have been in effect since February 8, 1979, and the remaining sections became effective May 10, 1980. The regulation does not apply to check guarantee or authorization services, wire transfers, certain securities or commodities transfers, automatic transfers from savings to demand deposit accounts, trust accounts, and certain telephone-initiated transfers that have not been preauthorized.

experience with EFT and a broader awareness of the other types of convenience and cost advantages it offers are likely to overcome such resistance.

Security. A major policy concern related to EFT is security. At the individual level, the consumer is concerned with proper user identification to prevent illegal manipulation of funds. The Electronic Fund Transfer Act (see box), passed in 1978, sets forth consumers' rights and obligations with respect to EFT. Security has been maintained at the ATMs through the use of a Personal Identification Number, which is generally mailed to the consumer from a separate office after he receives a terminal access card.

Legislators and regulators, however, are concerned with fraud on a much larger scale. Of major concern is the security of the data base of the central switch, which contains personal and financial information on thousands of persons. Maximum security is vital to prevent invasion of privacy or fraud on a truly massive scale.

Sharing of terminals. Other regulatory issues involve the structure of EFT. Often, several institutions share an EFT terminal, such as an ATM, to offer customers additional convenience at minimal cost. In Michigan and some other states, shared terminals are not treated as branches under state law, giving them a distinct advantage over terminals operated exclusively for the customers of one institution. Sharing provides a way for smaller institutions to offer electronic services that might otherwise be unable to do so because of cost constraints. Sharing is procompetitive in so far as it encourages competition from firms that would have been excluded from the market. On the other hand, any type of cooperative arrangement between institutions in the sale of services increases the probability of collusive behavior. The availability of sharing may also discourage innovative activity and independent market entry.¹³

¹²Bill Orr, "California, a Foot-Dragger in ATMs, Comes to Life," *ABA Banking Journal*, vol. 71 (September 1979), p. 139.

¹³Robert A. Eisenbeis and Benjamin Wolkowitz, "Sharing and Access Issues," *Bankers Magazine*, vol. 162 (March/April 1979), p. 48.

Ideally, the situation should be evaluated in each banking market by weighing the competitive effects against the public benefits to be derived. In practice, sharing has been left to the states to regulate. As of midyear 1979, 20 states had passed legislation requiring sharing in some form. A proposed joint venture involving most of the commercial banks in Nebraska, however, has been objected to by the U.S. Department of Justice.¹⁴ Justice has yet to challenge an individual state's mandatory sharing law, although it has stated its general opposition to mandated sharing on competitive grounds.

Ownership. Another regulatory concern involves ownership of a nationwide EFT system. Currently, there exist several national and international electronic communications networks. Among them are:¹⁵

- 1) ACH (Automated Clearinghouse)—Automated clearinghouses operate in 32 locations nationwide. Payments between ACHs are governed by rules published by the National Automated Clearing House Association (NACHA). The Federal Reserve operates 31 of these ACHs.
- 2) Bank Wire—A cooperative communications network owned by about 200 subscribing banks, this system supports a computerized message switching center for domestic funds transfer through correspondents. Bank Wire plans to offer same-day availability through its own net settlement service via access to the Federal Reserve System by the third quarter of 1981.
- 3) Fed Wire—Connects all Federal Reserve offices for the transfer of reserve funds, U.S. Treasury instruments, research and economic data, and other messages. The

current Culpeper Switch is to be replaced by a more reliable, efficient, and flexible communications system which utilizes several independent switches instead of the current central switch.

- 4) SWIFT (Society for Worldwide Interbank Financial Telecommunications)—Organized as a nonprofit organization in 1973 by a group of 239 founding banks in 11 countries, today it connects more than 700 of the world's largest banks in 26 countries via a message switching center for international funds transfer.
- 5) CHIPS (Clearing House Interbank Payments System)—Clearinghouse created by 12 New York banks for domestic and international funds transfer. Over 100 institutions, including domestic and foreign banks and Edge Act corporations, are participating in the CHIPS telecommunications network. Same-day settlement with access to the Federal Reserve System is scheduled to begin October 1, 1981.

Some or all of these networks are certain to be part of whatever nationwide EFT system finally evolves. Just how the Federal Reserve will fit into that system is not fully defined at this time, but it is likely to play a key role because of the unique capacity of the Federal Reserve to effect settlement between any number of institutions. Important factors operating to enhance the role of the Federal Reserve are the suitability of the ACH network—in contrast to other existing wire transfer systems—for processing a large volume of small transactions, the Board's announced intention to price ACH services below current costs to stimulate additional volume, and the system's proven reliability and quality of service. Private EFT systems, whether operated by depository institutions or by others, can easily avail themselves of the Federal Reserve's services through any institution that maintains a direct account relationship with the Federal Reserve.

¹⁴W. L. Hood, "History of Illinois Banking Legislation," (unpublished manuscript in Continental Illinois National Bank library, March 1978), p. 69.

¹⁵"What's Ahead for the Wire Services?," *ABA Banking Journal*, vol. 72 (February 1980), pp. 9-97, 105.

Geographic restrictions. The development and geographical spread of EFT services are also influenced by market factors such as state banking law. It has been pointed out that banks in branching states may use ATMs as a cheaper alternative to “brick and mortar” branches. In addition, some states which prohibit branching permit banks to erect limited-service EFT facilities, effectively enlarging the banks’ service areas. This established tendency of the states to allow the establishment of EFT facilities at locations that would be prohibited to the traditional banking office or branch provides expansion-minded financial institutions with an additional incentive to implement EFT services.

Conclusions

Commercial banks, by not passing the true cost of checking accounts along to the consumer, have made it difficult for institu-

tions offering EFT services to compete profitably for transaction accounts. This has helped to postpone the long-predicted emergence of EFT as the primary means of payment. With the Federal Reserve pricing its check clearing services and the relaxing and gradual phase-out of interest rate ceilings on deposits, it is anticipated that checking accounts offered by commercial banks will be priced to reflect their true costs. This will make competing means of payment more attractive to consumers. Increased competition from comparable thrift EFT services will encourage competitive pricing and provide additional incentive for all depository institutions to convert to EFT. Although depository institutions’ profits may suffer with the introduction of EFT, over the longer term transaction volume should eventually justify the high start-up costs. The public will benefit through increased availability of services, added convenience, and more competitive pricing.

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